UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

OXFORD.—Lord Curzon was elected Chancellor of the University on Thursday, March 14. The votes recorded were:—Lord Curzon, 1101; Lord Rosebery, 440. There are 6576 members of Convocation, so that about one-quarter of them came to Oxford to vote. Lord Curzon was a commoner of Balliol, afterwards a fellow of All Souls, and he gained the Lothian and Arnold prizes. He received an hon. D.C.L. in 1904 on the occasion of the late Chancellor's installation.

The statute brought forward in Congregation on May 12 to provide an official residence for the Savilian professor of astronomy adjoining the observatory in the parks was lost by 55 votes to 156. In the course of the debate on the proposal, the Warden of All Souls', one of the Radcliffe trustees, stated that the trustees would welcome a scheme for the cooperation of the University and Radcliffe Observatories.

CAMBRIDGE.—A lecture will be given by Sir Frederick Lely on "The Practical Side of Famines in India" on Wednesday, April 24, at 5.30 p.m., in the museum of archæology. The lecture will be open to members of the University and others who are interested in the Indian Empire.

THE King of Spain has, *La Nature* reports, created a chair of automobilism at l'École des Arts et Sciences at Madrid. The professor will be expected to give all the practical and theoretical instruction young chauffeurs require.

A PARAGRAPH referring to the Indian Institute of Science appeared in the *Pioneer Mail* a few weeks ago, and was printed in an abridged form in these columns. Dr. Morris W. Travers, F.R.S., director of the institute, writes to say that he has had numerous applications for admission to the institute, so the statement in the *Pioneer Mail*, that it will be difficult to obtain students, is scarcely correct. As to the standard required for degrees in Indian universities, Dr. Travers remarks:—"It is true that I have expressed disappointment at the standard of the work required for degrees in the Indian universities, and am of the opinion that the practical teaching is quite inadequate. I have met only one research student, and have heard of one other."

A CONFERENCE on the teaching of hygiene and temperance in the universities and schools of the British Empire will be held in London on St. George's Day, April 23. The conference is convened by a committee formed to stimulate general interest in the scientific teaching of hygiene and temperance as an integral basis of national education, and to bring before the country during the visit of the Colonial Premiers information as to what is being done in various parts of the Empire. Among the members of the committee are Sir Lauder Brunton, Sir Thomas Barlow, Sir Victor Horsley, Mr. Mayo Robson, Dr. Claude Taylor, and Prof. Sims Woodhead. Further information and tickets of admission to the conference may be obtained from the honorary organising secretary, Miss St. John Wileman, 11 Chandos Street, Cavendish Square.

A RECENT article in the *Pioneer* of Allahabad deals with the work and usefulness of the Thomason Civil Engineering College at Roorkee, United Provinces, which is the leading engineering college in India. In 1891 the college was transferred from the Public Works Department to the Education Department, affiliated to Allahabad University, and its educational staff strengthened on the purely scientific side. The Government of the United Provinces has decided again to extend the college, and the improvements will call for an expenditure of three and a half lakhs. The important part which a properly organised technical institution may play in industrial development should be borne in mind when the extensions or changes at Roorkee are under consideration. Higher technical education is, of course, costly to provide, but the development of technical institutions on broad scientific lines is an urgent need in India, and in endeavouring to meet it the close relation between pure and applied science must be remembered. It is to be hoped that further developments at Roorkee will continue along the lines proved to be successful at home, and result in a strengthening of Thomason College and other Indian educational institutions.

THE council of King's College, London, with the assent of its court, has concluded an agreement by which the departments of the college dealing with arts, laws, science, engineering, and medicine (preliminary and intermediate studies) are to be incorporated in the University of London on terms similar to those recently adopted in the case of University College. An indispensable condition to the incorporation of the college is the raising of a sum of 125,000*l*. Of the sum in question, 22,000*l*. is needed to pay off the debt on the college, 37,000*l*. to pay off the debt on King's College School, which will thereafter be placed under separate government, and 66,000*l*. to form an endowment fund and enable the college to occupy the whole of its premises. An appeal is being made to the public to provide this amount. The appeal has been endorsed by the Senate of the University of London, and already encouraging promises of support have been given. The Goldsmiths' Company and the Clothworkers' Company have each given 5000*l*. In addition to the 125,000*l*., the council asks for 20,000*l*. for the endowment of the theological department. Donations may be given generally to the fund in aid of the incorporation of King's College in the University of London, or else to any of the specific objects above mentioned. No sum will be devoted to the theological department unless specially given for that purpose.

THE eleventh annual distribution of prizes and certificates to the students of the day college and evening classes of the South-Western Polytechnic, Chelsea, took place on March 15. In the unavoidable absence of the Lord Chief Justice (Lord Alverstone), Sir Owen Roberts presented the awards. The principal, in the course of his report on the session 1905–6, spoke of the satisfactory character of the work carried on, and directed special attention to the large increase of student entries in the natural science department. He referred to the need which existed for more continuous work on the part of the students, and instanced the fact that during last session the average hours worked by each adult student in the day classes was only 234, or the equivalent of eight weeks' full work out of thirty-six weeks possible. The institute's record in respect of examination honours and degrees had been well maintained. The equipment of the various departments had been largely increased, and was being rapidly brought up to the standard of modern requirements. Sir Owen Roberts, in addressing the students, expressed satisfaction at the close relationship between the institute and London University. He urged the desirability, in the case of persons actively engaged, of some study to take them outside their ordinary occupation, and which was provided by the scheme of work carried out in the institute.

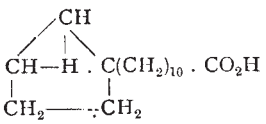
THE inaugural lecture of the new Sibthorpian professor in the University of Oxford develops a plea for the reconsideration of agriculture by the University. Although Dr. Somerville has been appointed professor of rural economy, his present duty is to lecture upon forest botany, and he makes it clear that this is not his own interpretation of the term "rural economy." Those who read this lecture will agree that a good case is made out for agriculture as a university subject. Dr. Somerville, as becomes a new professor, contents himself with making suggestions. Outsiders interested in the development of agriculture will probably wish that it had been possible to make demands, for it is surely time that Oxford was doing something for agriculture. The first page of this lecture tells us that Sibthorp endowed the chair in 1796; we read further that for a century it was the only university chair of its kind in England; but when, after following Dr. Somerville's account of the progress of agricultural education during this century, we pause and ask what Oxford's share has been, we find that it has been practically *nil*. Occasional lectures have been given, and once or twice attempts have been made to introduce an agricultural course, but the University has rejected the schemes of the advocates of agriculture; and now, 110

years after Sibthorp's foundation, Oxford's new professor is pointing out that while sixteen of the twenty-five university graduates recently appointed to the Indian Agricultural Department have been trained in Cambridge and Edinburgh, "Oxford has not supplied a single candidate for these Imperial posts." We should like to urge reconsideration of the subject on other grounds. Agriculture needs the support of the English universities, and in the past it has suffered through their neglect. By her influence on the young landowners who pass through her colleges Oxford might make her teaching felt on many an English estate.

SOCIETIES AND ACADEMIES.

LONDON.

Chemical Society, March 7.—Prof. R. Meldola, F.R.S., president, in the chair.—The constitution of chaulmoogric and hydnocarpic acids: M. **Barrowcliff** and F. B. **Power.** A study of the oxidation products of chaulmoogric acid leads to the conclusion that it exists in a state of tautomerism between 1-α-carboxy-*n*-dodecyl-Δ^4-*cyclo*pentene and 1-α-carboxy-*n*-dodecyl-1 : 4-*bicyclo*pentane. Hydnocarpic acid, $C_{16}H_{28}O_2$, is a homologue of chaulmoogric acid. Its constitution may accordingly be represented by the following formula:—



—Hydrolysis of amygdalin by acids: R. J. **Caldwell** and S. L. **Courtauld.** The authors have studied the action of acids in comparison with that of enzymes on this "bioside," and the results show that though amygdalin is ultimately resolved by acids into hydrogen cyanide, benzaldehyde, and two molecular proportions of glucose, the separation of the glucose is effected in two stages. By carefully hydrolysing amygdalin by means of a normal solution of hydrogen chloride at 60°, the authors have prepared mandelonitrile glucoside.—Mandelonitrile glucosides. Prulaurasin: R. J. **Caldwell** and S. L. **Courtauld.** Fischer's glucoside bears the same relation to prulaurasin as amygdalin bears to the *iso*amygdalin described by Dakin, which is to be regarded as the derivative of inactive mandelonitrile, amygdalin and Fischer's glucoside being derived from *l*-mandelonitrile. Sambunigrin must be regarded as the β-glucoside of *d*-mandelonitrile.—The hydrolysis of amygdalin by emulsin: S. J. M. **Auld.** The hydrolysis of amygdalin by emulsin may proceed in three ways, depending on the mode of attachment of the emulsin. The experiments so far carried out by the author indicate that benzaldehydecyanohydrin and the αβ-disaccharide are formed, and the latter then resolves into two molecules of dextrose.—Electrolytic reduction, part iii.: H. D. **Law.** The products of electrolytic reduction of the aromatic aldehydes in alkaline solution are compounds of the hydrobenzoin type, but this reaction is completely altered when a methyl group is substituted in the *ortho* or *meta* position of the benzene nucleus. Compounds of a resinous nature are obtained in the latter case.—New cerium salts: G. T. **Morgan** and E. **Cahen.** The aromatic sulphonates of this element are usually soluble, crystalline compounds resembling the thorium sulphonates previously described by one of the authors.—Volume changes, which accompany transformations in the system $Na_2S_2O_3 : 5H_2O$: H. M. **Dawson** and C. G. **Jackson.** The changes, which take place in the system $Na_2S_2O_3 : 5H_2O$ when subjected to certain temperature variations, have been investigated by the dilatometric method.—Depression of the freezing point of aqueous solutions of hydrogen peroxide by potassium persulphate and other compounds: T. S. **Price.** Potassium persulphate causes a less molecular depression of the freezing point of aqueous solutions of hydrogen peroxide than it does of water, and the conclusion is drawn that an unstable compound is formed in solution.—The formation and reactions of imino-compounds, part iii., the formation of 1 : 3-naphthylenediamine and its derivatives from *o*-toluonitrile. E. F. J. **Atkinson,** H. **Ingham,** and J. F. **Thorpe.**—The action of ethylene dibromide and of propylene dibromide on the disodium derivative of diacetylacetone: A. W. **Bain.**

Mathematical Society, March 14.—Sir W. D. Niven, vice-president, in the chair.—Mr. G. W. **Evans-Cross** exhibited his calculating machine, the myriometer. The instrument has several different forms, which are all, in principle, modifications of the slide-rule. In the form in which the instrument can be used for multiplication, the rule consists of a number, equal to that of the digits in one factor, of slips placed diagonally in a frame, and the slide carries as many cursors as there are digits in the other factor. The instrument will give exact results for numbers of six or eight digits. In other forms the instrument can be used for various calculations relating to commerce, such as the reduction of the interest on a stated sum from one percentage to another. In another form slides can be set so as to give the calendar of any year, B.C. or A.D., and all the new moons of the year.—Invariants of the general quadratic form *modulo* 2: Prof. L. E. **Dickson.** Complete sets of independent invariants, and also of linearly independent invariants, are obtained for quadratic forms of not more than five variables in the field of order two, and those invariants of quadratic forms of six variables which can be deduced are also given. It is shown that the complete classification of quadratic forms can be accomplished by means of invariant functions.—Linear partial differential equations of the first order: J. **Brill.** The paper is occupied with a general review of the theory and an endeavour to ascertain the relations of exceptional solutions to the solutions of classified types.—The reduction of the factorisation of binary septans and octans to the solution of an indeterminate equation: Dr. T. **Stuart.**—An informal communication on the representation of functions by means of series of a special type was made by Prof. A. E. H. **Love.**

PARIS.

Academy of Sciences, March 11.—M. Henri Becquerel in the chair.—Some details of the spectroheliograph: H. **Deslandres.** Remarks on a recent paper by M. Millochau in the *Comptes rendus*. Many of the details described by M. Millochau as new have been used by the author for years, and further details of working are now added.—A new contribution to the study of the stinging flies of intertropical Africa: A. **Laveran.** A detailed account of the various species found in the districts of Senegal, Mauritania, the Upper Senegal and Niger, French Guinea, the Congo Free State, and Mozambique.—The direct dehydration of dimethyl-isopropyl carbinol: Louis **Henry.** The dehydration of this alcohol might be expected to give rise to pure tetramethylethylene, and it was with this object in view that the experiments were carried out. The reaction proved to be not quite so simple, the fractionation of the hydrocarbons obtained by the action of acetic anhydride upon the alcohol giving tetramethylethylene and methyl-isopropylethylene, the former hydrocarbon being about three-quarters of the total product.—Some new results obtained in the detection and estimation of methane: Nestor **Gréhant.** An improvement of an apparatus previously described.—The perpetual secretary announced the death of François Joseph Herrgott, correspondant for the section of medicine and surgery.—A new comet: M. **Giacobini** (see p. 498).—The elastic deformations which leave invariable the lengths of a triple infinity of right lines: G. **Kœnigs.**—Waves of shock and combustion. The stability of the explosive wave: MM. **Crussard** and **Jouguet.** It is assumed that the combustion is incomplete in the wave, but is completed behind adiabatically and reversibly according to the law of dissociation, and the consequences of this assumption are worked out.—The conditions of formation of electrified centres of feeble mobility in gases: Maurice **de Broglie.** Experiments on carbon monoxide flames and flames containing hydrogen lead to the conclusion that the presence of centres of feeble mobility in the gases issuing from flames appears to be related to the production in the flame of solid or liquid products, or to the presence of some centres previously existing in the normal state in the atmo-